

Sustainability Plan Terms of Reference

IN SUPPORT OF SECONDARY PLANS IN THE PROMENADE MALL
REDEVELOPMENT

CLIENT: client name

Date

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1.0 Introduction

buildABILITY Corporation has been retained by the City of Vaughan to complete a Sustainability Plan (the Plan) for the Promenade Mall Secondary Plan Area in the City of Vaughan, herein referred to as the 'study area'.

The Secondary Plan Area occupies a strategic position in the City of Vaughan Urban Structure as one of the City's intensification areas. The Secondary Plan Area is identified as a "Primary Centre" in Vaughan Official Plan (VOP) 2010. This section will include the introductory topics and content to necessary to understand the background, physical context of the study area, and the purpose of a Sustainability Plan for the Area.

The Plan is organized into eight parts. The first part outlines the background, location and description of the Secondary Plan Area. The purpose for a Sustainability Plan stated, and the context for sustainability standards and policies is described. The second part of the Plan describes the policy context that influence the Plan. The third part of the Plan describes the vision and guiding principles.

The subsequent four parts focus on the Sustainability Goals, their objectives, and suggested actions. The final part of the Plan will be a summary table of the conclusions and suggested actions that form the Promenade Mall Secondary Plan Area Sustainability Plan.

The final Sustainability Plan will be formed based on the objectives, policies, and suggested actions in the previous parts. These recommendations will be informed by looking at the various levers (fiscal, financial, educational/information, regulatory) that transforms strategies into successful and effective policies.

1.1 The Purpose

The purpose of the Sustainability Plan is to provide a vision coupled with guidance for the future development and redevelopment within the Promenade Mall Secondary Plan Area. The objective, policies, and actions suggested in this Plan are aligned to the sustainable development policies in the applicable documents.

This section will also describe, at a high level, the Federal and Provincial policies that are in effect, which are intended to guide sustainable developments at the municipal scale. This section will also briefly describe the global commitments that Canada has made which affect policies at the municipal level, such as the United Nations Climate Change Paris Agreement.

1.2 Location & Description of Promenade Mall Secondary Plan Area

This section will describe the physical location of the Promenade Mall Secondary Plan Area. The applicable lands are located under the jurisdictions of York Region, and the City of Vaughan. The site is approximately 95 acres in size.¹ The Promenade Mall Secondary Plan Study Area ("Secondary Plan Area") is generally located in Part of Lots 4 and 5, Concession 2 in the City of Vaughan, and within the established community of Thornhill. The Secondary Plan Area is bounded by Centre Street to the north, Bathurst Street to the east, Clark Avenue West to the south and New Westminster Drive on the west. Figure 1 below depicts the study area as it stands in 2019.

Figure 1: Secondary Plan study area is shown below²



1.2.1 Existing Land Use

The built form of the Secondary Plan Area is primarily mid-rise mixed use, high and mid-rise residential in the form of condominiums and townhouses, and institutional in the form of a library and secondary school. Directly north of the study area, there are The Area can be described as having a central area surrounded by a private ring road, Promenade Circle. The parcels of land between the outer limit of Promenade Circle and the boundary of the Secondary Plan Area are divided into four quadrants by private roads. These private roads provide access to Promenade Circle (the ring road) from Centre Street to the north, New Westminster Drive to the west, Bathurst Street to the east, and Clark Avenue West to the south.

The plan area includes the Promenade Mall, a regional shopping scale shopping centre, additional commercial uses to the northeast and east of the mall, and the associated at-grade parking.³ Further uses within the study area include high-rise residential at the northwest and southeast corners of the site, community facilities including Bathurst Clark Resource Library, a woodlot, Pierre Elliott Trudeau Park, and the YRT bus terminal.⁴ Directly adjacent to Pierre Elliott Trudeau Park and the existing woodlot is St. Elizabeth Catholic High School.

1.2.2 Existing Transportation context

A key concern for the redevelopment of the Secondary Plan Area is how to become less auto-centric and more transit and pedestrian oriented, in accordance with provincial, regional, and local policy directions. Transportation is a key component of any Sustainability Plan, as it contributes to greenhouse gas emissions. For a detailed analysis of the background and existing transportation context, please refer to the 'Background Transportation Discussion Paper' by HDR Inc.

Road and Street Network

Bathurst Street is a north-south Regional road, classified as a major arterial with right-of-way width of up to 45 metres.⁵ Bathurst Street provides access to Highway 407 and 7, approximately 2 kilometres north of the Study Area. Pedestrian sidewalks and transit stops are provided on both sides of the street.

Centre Street is an east-west Regional Road classified as a major arterial, with right-of-way width of up to 45 metres.⁶ Centre Street provides access to Highway 7 to the west, and Yonge Street to the east. New Westminster Drive and Clark Avenue West are Major Collector roads with planned right-of-way widths of 26 metres.⁷

Promenade Circle is a four-lane private road which provides access to the Promenade Mall. It has multiple egress points to the mall's surface parking areas. There are marked crosswalks providing pedestrian access to the nearby residential buildings on the outside of Promenade Circle, and four controlled intersections at the north, east, south and west.

A well-connected network provides more access to all modes of travel, is more pedestrian friendly, and supports transit-oriented development.⁸ The transportation background study conducted by HDR Inc. indicates that the existing intersection density and link-node ratio for active transportation in the Secondary Plan area scores low when compared to other urban centres scores.⁹ Improving connectivity in the core of the site, especially for active modes of transportation, will be an important focus of the future planning framework for the study.

Existing Transit network

The area is generally well served by transit. The Promenade Terminal is located at the northern end of the subject site and services several transit systems: VIVA, York Region Transit (YRT), and Toronto Transit Commission (TTC). Routes include:

- YRT
 - 77 Highway 7 bus
 - 88 Bathurst bus
 - 23 Thornhill Woods bus
 - 3 Thornhill bus
- TTC – 160 Bathurst bus
- Viva
 - VIVA Orange bus
 - VIVA Purple bus

According to the Transportation background study by HDR Inc., peak period frequencies for all routes range between every 15 and 35 minutes, with most routes operating with headways greater than 20 minutes during off-peak hours.¹⁰

There are dedicated bus rapidways are currently used by Viva services on most of Highway 7 and will soon be operational on Bathurst Street and Centre Street within the study area, with stations at Taiga, Disera-Promenade, and Atkinson.

Bicycle and Pedestrian network

There are no dedicated cycling facilities within the study area. Streets that are designated as shared roadways have no pavement markings or physical barriers for cyclists. There are also a number of pathways throughout the study area that could be used by cyclists, but do not have adequate signage, wayfinding, or connectivity to the Secondary Plan area.¹¹ The Bathurst Street and Centre Street vivaNext project will introduce raised bike lanes on Bathurst Street north of Centre Street and on Centre Street West of Bathurst Street.¹²

The objectives, policies and recommended actions in this plan will address improvements to the pedestrian and cycling experience in the Secondary Plan area.

1.2.3 Current Development Applications

There are currently two active development applications within the Secondary Plan Area.

The first development application is located on the Promenade Mall lands. The Owner of the lands has submitted Official Plan and Zoning By-law Amendments applications (files OP.18.013 and Z.18.020 respectively).

The second development application has been filed within the northeast quadrant of the Secondary Plan Area. The subject lands with respect to file OP.16.006 extend from North Promenade and Promenade Circle to the west to the private driveway which separates the existing multi-unit retail commercial development from the existing LCBO site to the south within the Secondary Plan Area. The applicant has filed an appeal to the LPAT of their site-specific Official Plan Amendment application (case # PL111184).

1.2.4 Current Development Applications Surrounding the Secondary Plan Area

There are several development applications currently active in the surrounding area of the Secondary Plan Area. The applications include:

- 7890 Bathurst Street: OPA, ZBA, Site Development and Condominium Applications for 2 residential apartment towers (12 and 25 storeys) linked by a 6-storey podium with ground floor retail

- 784 Centre Street: ZBA and Site Development Application for 2 apartment buildings (19 and 22 storeys, 468 units)
- Northwest corner of Bathurst Street and Beverly Glen Boulevard: OPA and ZBA to permit 4 residential apartment buildings (6, 12, 15 and 25 storeys, 797 units) with ground floor commercial
- Clark Avenue south of the site: ZBA, Site Development and Condominium Applications for 84 townhouse units

2.0 Planning Policy context

Part 2.0 in the Sustainability Plan will describe the policy context that informs the content of the Plan. This Part will include descriptions on applicable sustainability goals, policies and targets in Provincial, Regional and Municipal policy documents.

2.1 Provincial Policies

This section will describe the applicable Provincial policies that affect development in the Study area.

2.1.1 The Planning Act and Provincial Policy Statement

The most direct control by the Province with regards to land use planning and policy is through the Planning Act, which defines municipal authority in land use planning matters. The Provincial Policy Statement (PPS) 2005, issued under the Planning Act, requires the development of efficient and cost-effective developments and land use patterns in support of public transit as well as the protection of natural heritage features and areas.¹³ The Planning Act requires that any decisions relating to planning matters to be consistent with policy statements issued under the Act. Specific policies under the PPS, mainly in sections 1.6, 1.7 and 1.8 that address sustainability will be described.

2.1.2 Growth Plan for the Greater Golden Horseshoe

The Growth Plan for the Greater Golden Horseshoe (Growth Plan) is a provincial plan that provides a framework for implementing the Province's vision for building strong, prosperous communities within the Greater Golden Horseshoe.¹⁴ Section 1.2.1 of the Growth Plan includes guiding principles that address climate change and incorporating approaches to reduce greenhouse gas emissions.

The Province of Ontario released an update to the Growth Plan as part of a broader Provincial Coordinated Review for the Greater Golden Horseshoe which came into effect on July 1, 2017. The new Growth Plan updates the previous Growth Plan (2006) with policies to plan for and direct long-term growth and development up to 2041 in the Greater Golden Horseshoe (GGH).

Specific policies that address aspects of sustainability, such as active transportation, water management and the built environment will be described in this section.

The Growth Plan places a long-term emphasis on intensification and redevelopment of existing urban areas to increase compact urban form and slow urban expansion, particularly in proximity to transit. The Growth Plan is premised on the principles of building compact, vibrant and complete communities, developing a strong and competitive economy, protection and wise use of natural resources, and optimizing use of existing and new infrastructure to support growth in a compact, efficient form. Municipal official plans within the Greater Golden Horseshoe must conform with the Growth Plan.

York Region and the City of Vaughan will be required to develop a strategy to achieve the minimum intensification target of 60% of all residential development annually within the 'built boundary'. Particularly, Schedule 5 of the Growth Plan (2017) identifies Centre Street and Bathurst Street as Priority Transit Corridors. The Major Transit Stations Area (MTSA) policies are applicable as York Region in consultation with City of Vaughan has identified three potential stations, with two situated along Centre Street and one along Bathurst Street within close proximity of the Secondary Plan Area. The delineated limits of the MTSA are currently being determined by York Region.

MTSAs along priority transit corridors (Light Rail or bus rapid transit) will now be required to be planned for a minimum density of 160 residents and jobs combined per hectare. The Promenade Mall Secondary Plan area will be transit supportive, while also supporting active transportation such as walking and cycling with planned infrastructure to support the policies of the Growth Plan, 2017.

2.1.3 Made-in-Ontario Environment Plan

In November 2018, the Province of Ontario released the new 'Made-in-Ontario Environment Plan,' (Environmental Plan) which replaced the previous 'Climate Change Action Plan.' The Environment Plan emphasizes the importance of building climate change resilience in local communities, businesses, Indigenous communities, and the public.

2.2 Regional Policies

This section will describe the applicable Regional policies that affect development in the Secondary Plan area.

2.2.1 York Region Official Plan

The York Region Official Plan (ROP) sets a new standard for the development of York Region's communities, and presents a co-ordinated and integrated approach to growth management and infrastructure delivery.¹⁵ As the upper tier planning document, the City of Vaughan's planning documents must conform to the goals, objectives and policies of the ROP.¹⁶ The ROP provides the framework for the overall planning structure for the Region, including specific guidance and policies for the urban structure and regionally significant areas. Section 1.2 of the ROP states that, "Sustainability is the lens through which York Region formulates, enhances and implements policy."¹⁷

Key elements of the ROP includes city building focused on green building, community design that includes sustainable buildings and water and energy management, and zero carbon and waste production.¹⁸ It also includes targets for new buildings with regard to energy efficiency and conservation.

2.2.4 York Region Transportation Master Plan (TMP)

The York Region Transportation Master Plan (YRTMP) July 2016 sets out the infrastructure and policy requirements to enable the Region to build and maintain additional transit infrastructure, roads infrastructure and a system of sidewalks and trains to further enable active transportation. The YRTMP provides a 25-year outlook support growth and address York Region's Mobility Needs to 2041 and Beyond. Specific policies within the TMP, as they relate to mobility networks and active transportation will be described in this section.

2.3 Municipal Policies

This section will describe the applicable Municipal policies that affect development in the Secondary Plan area.

2.3.1 Vaughan Official Plan (2010)

The Vaughan Official Plan (VOP) addresses all elements of effective, sustainable, and successful city-building, while managing projected growth to 2031.¹⁹ The VOP provides guidance for the

physical development of the municipality while taking into consideration important social, economic and environmental issues and objectives.²⁰ Goal 7 in the VOP states that the City of Vaughan established the concept of sustainability as a key city-wide objective, which is embedded in all aspects of the VOP.²¹ Specific policies that address aspects of sustainability, such as active transportation, water management and the built environment will be described in this section.

2.3.2 Official Plan Amendment 210 (OPA 210) The Thornhill Town Centre Plan

Official Plan Amendment 210 (OPA 210) identified the Thornhill Town Centre and provides for the development of Thornhill, based on twelve residential neighbourhoods and a Town Centre. OPA 210 continues to be the policy framework guiding development in Thornhill. The policies in OPA 210, is amended by OPA 671, which designates the Promenade Mall Secondary Plan area as "Town Centre Commercial/Retail Core" with a "Special Policy Area" overlay. This designation permits the existing commercial uses to continue and also permits "new development". New development shall occur in a manner which is consistent with the "mixed-use" and "urban design" principles of OPA 671.

2.3.3 Community Sustainability Plan (Green Directions Vaughan)

Green Directions Vaughan, approved in 2009 by Vaughan Council, is Vaughan's Community Sustainability and Environmental Master Plan. The Plan is currently undergoing an update, pending approval in December 2019. This Sustainability Plan will reference the 2019 Draft version.

The Plan is meant to guide and measure sustainability in Vaughan through a series of action plans, addressing environmental, cultural, social, and economic values.

The Plan is divided into goals, objectives, and actions. Objectives and actions which have a direct impact on the Promenade Mall area are listed below:

- Objective 1.2: To promote the reduction of community greenhouse gas emissions in the City of Vaughan.
 - Action 1.2.1.
- Objective 1.3: To support enhanced standards of stormwater management and water conservation at City facilities, and work with others to care for Vaughan's watersheds.
 - Action 1.3.3
 - Action 1.3.4
 - Action 1.3.5

- Action 1.3.6
- Objective 1.4: To reduce the amount of waste generated in City owned facilities and by Vaughan citizens, business and institutions, and procure sustainable products for the City's use.
 - Action 1.4.5
- Objective 2.1: To ensure a climate resilient City and build capacity for local action on climate change.
 - Action 2.1.2
- Objective 2.2: To develop Vaughan as a complete community with maximum greenspace and urban form that supports our expected population growth.
 - Action 2.2.1
 - Action 2.2.3
- Objective 2.3: To create a city with sustainable built form that is compact, resilient and designed to promote citizen health.
 - Action 2.3.2
 - Action 2.3.3
 - Action 2.3.5
- Objective 3.1: To develop and sustain a network of sidewalks, paths and trails that supports all modes of non-vehicular transportation.
- Objective 3.2: To develop and sustain a network of roads that supports efficient and accessible public and private transit.
- Objective 3.3: Reduce single occupant vehicle (SOV) trips by supporting active transportation, car pooling and public transit.
 - Action 3.3.2
- Objective 4.1: To foster a city with strong social cohesion, an engaging arts scene, and a clear sense of its culture and heritage.
 - Action 4.1.4
- Objective 4.2: Ensure that the City attracts businesses and investment that will result in well-paying jobs for citizens, and contributes to a green, low carbon economy for ongoing economic growth.
- Objective 4.3: Improve community well-being through support of local food, the Agricultural System and the Agri-Food Network.
 - Action 4.3.3
- Objective 5.1: To share sustainable best practices and strengthen community engagement.

2.3.4 Vaughan Municipal Energy Plan (2016)

In early 2014, the City of Vaughan approved its first Community Climate Action Plan (CCAP) focused on the reduction of community greenhouse gas (GHG) emissions. The Municipal Energy Plan 2016 (MEP) builds on and replaces the CCAP, and supports the implementation of Green Directions Vaughan.²² The MEP is a comprehensive long-term plan designed to improve energy efficiency, reduce energy use and mitigate climate-changing greenhouse gas emissions.²³

The MEP takes a holistic approach to energy planning at the community level, taking into account energy generation and transmission infrastructure, land use planning, economic development and overall education on energy issues by the community at large.²⁴ The MEP establishes GHG emissions reductions, and outlines actions that could help achieve them. The GHG targets set by the MEP is 22% per capita reduction from the 2013 business-as-usual projection to 2031.²⁵

City of Vaughan Climate Emergency Declaration

On June 4th, 2019, the Mayor and Members of Council unanimously pass a Members' Resolution to declare a climate emergency in the City of Vaughan.²⁶ The Declaration includes a new target for GHG emissions reductions: to reduce per capita GHG emissions from the 2013 level of 5 tCO₂e per person to between 2 to 3 tonnes tCO₂e per person by 2030.²⁷ This reflects a percentage reduction of 58%.

2.3.5 City-wide Urban Design Guidelines

The City of Vaughan's City-wide Urban Design Guidelines approved by Vaughan Council in 2018 "provide performance-based direction for building and site design." The guidelines apply performance standards for site design, landscape, and all buildings types, except single detached, semi-detached, duplex and triplex housing.

2.3.6 Transportation Master Plan 2013 and Update

The City of Vaughan Transportation Master Plan ("A New Path"- 2012) sets out the transportation vision for A New Path and principles themed around sustainability for transforming transportation. The document identified the following thirteen principles to guide the Transportation Master Plan:

- a) Provide safe, accessible, affordable, reliable, efficient transportation for everyone;
- b) Make Vaughan's neighbourhoods pedestrian and bicycle friendly;

- c) Integrate land use and transportation planning to encourage more sustainable lifestyles;
- d) Preserve and enhance environmental resources;
- e) Promote reliable, convenient and seamless transit;
- f) Promote economic vitality;
- g) Support diverse transportation system funding;
- h) Minimize use of fossil fuels;
- i) Avoid unnecessary capacity improvements;
- j) Reduce need for travel;
- k) Encourage the efficient movement of freight and support the greater use of freight by rail;
- l) Develop parking strategies that reduce single occupant vehicle travel; and
- m) Foster awareness of sustainable transportation.

2.3.7 City of Vaughan Pedestrian and Bicycle Master Plan 2019

Anticipated for completion by 2019 the Pedestrian and Bicycle Master Plan will outline a strategic plan to “grow” walking, rolling, and biking in Vaughan through the development of supportive municipal processes, policies, and programs as well as a plan for the implementation of more comfortable infrastructure and connected network. Specific policies within the Pedestrian and Bicycle Master Plan will be referenced when developing the recommendations for Section 6.0.

2.3.9 Integrated Urban Water Master Plan

The Integrated Urban Water Master Plan will review and update the City’s existing Water and Wastewater Master Plan (2014) and the Storm Drainage and Stormwater Management Master Plan (2014). This master plan includes a detail analysis of existing infrastructure and will propose new required infrastructure for future growth, including intensification areas such as the Promenade Mall Secondary Plan area.

2.4 Other Reference Documents to consider

In addition to the policy documents described above, several other documents will be referenced that affect this Sustainability Plan.

2.4.1 Vaughan Vision 2020

The City of Vaughan's strategic plan, Vaughan Vision 2020, will be referenced. In particular, the strategic goals that relate to transportation and mobility, city building, and environmental stewardship:

- Service levels consistent with citizen needs
 - Lead and promote environmental sustainability

2.4.2 The Planning and Design Rationale Volumes 1 and 2, and Comprehensive Development Plan

The Planning and Design Rationale (Volumes 1 and 2), was prepared by Bousfields Inc., in support of a development application by the Promenade Limited Partnership (PLP). This application is to amend the VOP and zoning by-law 1-88 to permit PLP to proceed with Phase 1 redevelopment of the Mall, in advance of a Secondary Plan. Policy 10.1.1.13 in the VOP permits staff to process development applications prior to the approval of a Secondary Plan, subject to Council direction and identification of necessary supporting studies by staff. A requirement for the Area is the development of a Comprehensive Development Plan (CDP). The Planning and Design Rationale establishes the basis and policy context for, and includes, the development of the Comprehensive Development Plan (CDP).

Phase 1 of the redevelopment is expected to transform a portion of the CDP area into a complete, mixed-use neighbourhood. Phase 1 creates:

- Increased interconnectivity through the introduction of a new fine-grain High Street;
- New and extended indoor/outdoor pedestrian spaces that will help to define future development blocks and improve transit, cycling, pedestrian and vehicular circulation and connectivity through the Site;
- Improved linkages to surrounding neighbourhoods;
- Walkable development blocks with active street frontages; and
- Open green space which contributes to a more attractive public realm.

Several transportation demand management measures will also be integrated into Phase 1, including:

- Pedestrian sidewalks along the new High Street;
- Streeting widening along Promenade Circle to allow for on-street cycling infrastructure;
- Paid non-residential parking;

- A transit information centre;
- Transit shelters;
- Car-share parking;
- Bike-share;
- Bicycle repair stations; and
- Electrical vehicle charging stations.

2.4.3 Promenade Mall Secondary Plan background studies

The background studies which accompany the Promenade Mall Secondary Plan will also be referenced. These include:

- Scoped community facilities study
- Case studies and best practices
- Commercial use assessment
- Population and employment estimates
- Background Transportation discussion paper

3.0 The Vision, Goals and Objectives

This Part of the Sustainability Plan will describe the sustainability vision for Promenade Mall Secondary Plan Area. The vision is informed by the input from a variety of stakeholders through a public consultation process. This vision is accompanied by several background studies and assessments, and is the basis for the set of development principles and objectives described in the latter part of this section.

This section will also contain a brief description of the City of Vaughan's framework for sustainability, as it is presented in Green Directions Vaughan. The framework includes Vaughan's definition of sustainability, its environmental ethic, principles, goals, and objectives. Actions, timeframes, responsibility, and potential financial implications will be covered only briefly.

3.1 Existing Sustainability Standards

This section will briefly introduce existing sustainability and resiliency standards used in Ontario, Canada, and around the world. The vision, goals, and objectives for each standard will be described. Standards that can apply to existing and retrofit buildings and developments will be included.

3.1.1 One Planet Living

The One Planet Living (OPL) sustainability framework, developed by Bioregional and the World Wildlife Fund (WWF), is based on ten guiding principles of sustainability which are used to create holistic solutions.²⁸ OPL's framework is intended as guidance to support the development of the proponents' own 'One Planet Action Plan' which acts as a route map towards a more sustainable development.²⁹ The guidance document intended for Cities and Destinations applies for real estate developments or tourism destinations. OPL uses two headlining indicators of living sustainably:

- *Ecological footprinting: a way of accounting for a wide range of demands on the Earth's productive land and sea.*
- *Carbon footprinting: Derived from climate science, it measures carbon and other greenhouses gases emitted from human activity.³⁰*

The ten guiding principles of sustainability are as follows:

1. Health and Happiness

2. Equity and Local Economy
3. Culture and Community
4. Land and Nature
5. Sustainable Water
6. Local and Sustainable Food
7. Travel and Transport
8. Materials and Products
9. Zero Waste
10. Zero Carbon Energy

3.1.2 LEED for Cities and Communities (existing)

LEED is a rating system for the design, construction and operation of high-performance green buildings. LEED for Cities and Communities provides cities and communities with a globally consistent way to measure and communicate performance.³¹ It is performance-driven and includes a verified certification program.³² The rating system is intended to help cities and communities manage resources sustainably and provide a better quality of life for residents and visitors.³³ It provides a framework for planning, designing, measuring and managing the performance of social, economic, and environmental conditions on a city-wide or community level.³⁴ LEED for Cities and Communities is comprised of seven impact categories. The impact categories are listed below:

- Integrative Process
- Natural Systems and Ecology
- Transportation and Land use
- Water Efficiency
- Energy and Greenhouse Gas Emissions
- Materials and Resources
- Quality of Life
- Innovation
- Regional Priority³⁵

3.1.3 Toronto Green Development Standard

The Toronto Green Development Standard (TGS) is a set of performance measures for sustainable development that address the City of Toronto's environmental pressures and priorities.³⁶ The TGS came into effect January 2010 and has been updated twice in 2014 (v2)

and again in 2018 (v3).³⁷ There are three standards of the TGS, each relating to different building types:

- Low-Rise Residential
- Mid to High-Rise Residential & Non-Residential
- City Agency, Corporation and Division Owned Facilities

This study will be using and referencing the TGS for Mid to High-Rise Residential, as it applies to residential apartment buildings 4 storeys and higher, as well as all Industrial, Commercial, and Institutional (ICI) developments.³⁸

The current version of the TGS contains four tiers of environmental performance including stepped energy performance targets.³⁹ Tier 1 includes the minimum set of performance measures that are required by the City of Toronto and secured through the planning process.⁴⁰ Tier 2, 3 and 4 feature voluntary, higher level environmental performance features with incentives.⁴¹

The TGS is organized according to the City of Toronto's top five Environmental Drivers (pressures). The environmental drivers are:

- Air Quality
- Energy Efficiency, GHG & Resilience
- Water Balance, Quality & Efficiency
- Ecology
- Solid Waste

3.1.4 Vaughan Sustainability Performance Metrics

Policy 9.1.3 in the Vaughan Official Plan requires the development of a green development standard, implemented as part of the review of development applications, to achieve healthy, complete, and sustainable communities. In May 2018, the City of Vaughan's Sustainability Performance Metrics (SPM) were created as a tool to meet this specific objective of achieving healthy, complete, sustainable communities.⁴²

According to Policy 9.1.3.1. in the VOP, the SPM were established to:

- Provide a high-level of efficiency in energy consumption;
- Maximize solar gains and be constructed in a manner that facilitates future solar energy installations;
- Include or facilitate future on-site renewable energy systems;

- Provide a high-level of efficiency in water consumption, including rainwater harvesting and recirculation for irrigation purposes;
- Enhance indoor air quality;
- Contain or facilitate the future installation of plug-ins for electric vehicles;
- Use environmentally preferable building materials, high-renewable and recycled content building products, and certified sustainable harvested lumber;
- Provide water efficient and drought resistant landscaping, which should include the use of native plants and xeriscaping;
- Maximize permeable surfaces, including the provision of permeable driveways;
- Incorporate green roofs into building design; and
- Reduce construction waste and divert construction waste from landfill; and, promote Energy Star qualified development.

The Sustainability Metrics are based on the objectives of green buildings and sustainable communities, which include:

- Healthier interiors for occupants
- Improved building performance for cost savings related to ongoing maintenance
- Lower ecological footprint, such as lower greenhouse gas emissions and potable water use
- Better integration with green space and parks
- Promoting transit and active transportation

The Sustainability Metrics are also broken down into four categories that represent the major elements of community development. Each category contains a set of performance indicators and quantitative metrics to measure and calculate the sustainability scores for development proposals. The four categories are listed below:

- Built environment
- Mobility
- Natural environment and open space
- Infrastructure and buildings

The Sustainability Metrics will be used as the guidance document for this sustainability analysis. The subsequent sections in this analysis are organized based on the four categories described above.

3.1.5 C40 Cities

C40 Cities is a network of the world’s megacities committed to addressing climate change. Green Directions Vaughan references several C40 pledges as a municipal commitment:

- Transitioning to Fossil-Fuel-Free Streets by procuring only zero-emission buses from 2025 and ensuring a major area of the city is zero emission by 2030,
- Advancing towards zero waste cities by (1) reducing the municipal solid waste generation per capita by at least 15 per cent by 2030 compared to 2015 and (2) reducing the amount of municipal solid waste disposed to landfill and incineration by at least 50 per cent by 2030 compared to 2015 and increase the diversion rate away from landfill and incineration to at least 70% by 2030,
- Enacting regulations and/or planning policy to ensure new buildings operate at net zero carbon by 2030 and all buildings by 2050.

Actions and programs that other cities in the C40 network have adopted in order to achieve these pledges will be details in the proceeding comparison tables.

3.2 Comparison Tables – Goals

This section will compare the goals from each of the standards described in Section 3.1. Separate tables for goals in different impact areas will be provided. A sample table for the category ‘natural environment and open space,’ is provided below:

Comparison Table of Goals – Natural environment and open space

Vaughan Sustainability Metrics	One Planet Living	LEED for Cities and Communities	Toronto Green Standard V3 mid, high-rise
Improve natural heritage system function with respect to wildlife habitat and/or ecological functions, including ecosystem services.	To enhance 'ecosystem services' such as providing clean water and air	To conserve and restore the natural resources within the city or community.	Enhancement of native plant and animal species, habitat and ecosystems Protect, restore and enhance Ravine and Natural Feature Protected Areas

<p>Limit disturbance of healthy soil to:</p> <ul style="list-style-type: none"> · Protect soil horizons and maintain soil structure; · Support biological communities; · Minimize runoff and maximize water holding capacity; · Improve biological decomposition of pollutants; · Moderate peak stream flows and temperatures. 	To maximize carbon sequestration in the soil and biomass	N/A	N/A
Provide visual and physical access to public parks	N/A	To provide accessible green spaces to positively impact physical, mental and psychological health and well-being of the community while also enhancing the environmental quality of the city or community.	N/A
Reduce potable water use.	To use water efficiently and return it clean to the environment	<p>To support water management by minimizing water use and demand as a means to conserve water in the city or community.</p> <p>To reduce freshwater consumption and encourage to move towards a net zero water city.</p>	Reduce demand for potable water through efficient fixtures and appliances and reusing non-potable water
Promote community-based food production and provide alternative passive recreational uses.	To make it easy and attractive for people to enjoy fresh, local, seasonal, healthy produce	N/A	N/A
Protect receiving water bodies from the water quality degradation that may result from development and urbanization.	N/A	N/A	Protect water quality during construction and demolition
Implement a treatment-train approach to stormwater management that emphasizes source controls and conveyance controls to promote infiltration, evaporation, and/or re-use of rainwater, to maintain stream flows and thermal regimes within natural ranges of variation.	To contribute to sustainable water management and flood risk mitigation in the surrounding area	<p>To improve the operational efficiency of the water management systems through use of smart technology.</p> <p>To reduce runoff volume, prevent erosion, flooding and recharge groundwater.</p>	<p>Capture and manage rainfall to improve stormwater runoff and enhance resilience of infrastructure to extreme rainfall events</p> <p>Manage and clean stormwater that leaves the site</p>
Beautify naturalized stormwater management facilities to enhance the municipal natural heritage	N/A	N/A	N/A

system and integrate into the open space system as visually and physically accessible amenities.

4.0 Sustainable Natural Environment

The natural environment performs many functions that benefit ecological and human health. Trees clean excess pollutants from the air; wetlands filter the water that enters our drinking supply; vegetated areas provide natural flood control by allowing water to infiltrate the ground; and, natural areas provide habitat for a wide variety of species that create a healthy biodiversity in the City. By also providing recreational opportunities and visual respite the natural environment contributes to a high quality of living for Vaughan residents.

This section will contain objectives, policies, and actions, either existing, in effect or proposed, within the Promenade Mall Secondary Plan Area, with relation to the goal of maintaining a sustainable natural environment.

This section will also contain tables which compare the objectives, policies, and actions described above with the contemporary green development standards listed in Section 3. Comparing the objectives, policies, and actions will highlight areas for improvement, and help to determine how the Promenade Mall Secondary Area could improve. The comparison tables may also highlight where the Secondary Plan Area exceeds in standards. Actions will also be identified in sub-section 4.2. These actions will be identified, developed, or adapted from the objectives and policies comparisons in sub-section 4.1. Actions presented in sub-section 4.2 are recommendations for implementable policies for the Secondary Plan Area.

4.1 Objectives and Policies

This section will contain comparison charts between One Planet Living, LEED for Cities Communities, Toronto Green Development Standard and the Vaughan Sustainability Metrics. These charts will illustrate overlaps (and gaps) in design intent, objective, and policies.

The comparison charts will be organized by how well they could align with the policies from Chapter 3 of the VOP, which contains specific requirements relating to the natural environment, including the quality of the air and water.

The Secondary Plan Area contains a woodlot at the southwest corner. This woodlot is currently under consideration as a "Core Feature."⁴³ Specific policies as they relate to core features, and as they apply to the Secondary Plan Area are:

- Core Features

- Policy 3.2.3.4.c, 3.2.3.7., 3.2.3.8., 3.2.3.9., 3.2.3.10., 3.2.3.11., 3.2.3.12.
- Features of the natural heritage network – woodlands
 - Policy 3.3.3.
- Water shed planning
 - Policy 3.6.1.
- Protecting groundwater
 - Policy 3.6.2.
- Stormwater management
 - Policy 3.6.6.9., 3.6.6.11., 3.6.6.12., 3.6.6.13.
- Erosion and Sediment control
 - Policy 3.6.7.
- Air Quality and Climate change
 - Policy 3.7.1.

The table below is a sample chart of comparisons.

One Planet Living	LEED for Cities and Communities	Toronto Green Development Standard V3 Mid to High-rise	Vaughan Sustainability Metrics
Aim for the number of natural species recorded onsite to increase after development, compared to before	Complete and document an ecosystem assessment of the areas that includes the following topics: 1. Topography 2. Soils 3. Vegetation and Habitat 4. Hydrology and Aquatic Ecosystems	EC 1.1 Tree Planting Areas and Soil Volume Create tree planting areas within the site and in the adjacent public boulevard that meet the soil volume and other requirements necessary to provide tree canopy. Ensure that each separate tree planting area has a minimum space of 30m ³ soil.	1. Park Accessibility Minimum Target - Provide 2 or more road frontages for each urban square, parkette, and neighborhood park provided and 3 road frontages for each community park provided (3 points). Aspirational Target - Provide 3 or more road frontages for all parks provided (3 points).
Aim for the carbon-storing ability of land to be higher after development than before	Provide easily accessible green space. AND Minimum area of green space must be no less than 7212 square feet (670 square meters). AND A minimum of 70% of the dwelling units must have a green space within 1/2-mile (800 meters) walking distance.	EC 1.2 Trees Along Street Frontages Plant large growing shade trees along street frontages that are spaced appropriately having regard to site conditions and have access to a minimum of 30 m ³ of soil per tree.	2. Stormwater Quantity Implement a treatment-train approach to stormwater management that emphasizes source controls and conveyance controls to promote infiltration, evaporation, and/or re-use of rainwater.

4.2 Actions

Based on the comparison analysis completed in the previous section, actions will be identified, developed, or adjusted for applicability to the Secondary Plan Area, and listed here. These actions are suggested for consideration for implementation in future policy documents for the Secondary Plan Area.

Existing actions, such as those from the Urban Design Brief (Volume 2), which forms the Comprehensive Development Plan for the Promenade Mall area, will be evaluated and considered for implementation. The Urban Design Brief (Volume 2) includes several sustainability measures are considered for implementation, in accordance with Vaughan's Sustainability metrics. These are listed below:

- Erosion and sediment control
- Minimum soil volumes per tree will be assured in on-slab landscapes and streetscapes through a combination of measures including the use of soil cells and adjustments to location of the roof slab and drainage layer below.
- Minimum soil volumes per tree will be assured in terra firma landscapes such as future road boulevard plantings, by ensuring a minimum topsoil depth throughout.
- To the extent possible, decorative pavements shall be of low-albedo finish having a solar reflectance rating of 0.30 or greater.
- Each phase of the development will incorporate intensive and extensive green roofs to the extent possible.
- Where required to assist in achieving desired water balance targets, Low Impact Development (LID) measures will be explored as landscape and streetscape features.
- To the extent possible, plant material will be native.
- To the extent possible, irrigation systems will be designed without the need for potable water.
- Landscape elements including plantings, walls, fences and louvers will be used where required to mitigate wind impacts.
- Site lighting will be dark-sky certified and designed to meet photo-metric targets.

5.0 Built Environment

This section will contain objectives, policies, and actions, either existing, in effect or proposed, within the Promenade Mall Secondary Plan Area, with relation to the goal of ensuring sustainable development and redevelopment.

This section will also contain tables which compare the objectives, policies, and actions described above with the contemporary green development standards listed in Section 2.16. Comparing the objectives, policies, and actions will highlight areas for improvement, and help to determine how the Promenade Mall Secondary Area could improve. The comparison tables may also highlight where the Secondary Plan Area exceeds in standards.

5.1 Objectives and Policies

This section will contain comparison charts between One Planet Living, LEED for Cities Communities, Toronto Green Development Standard and the Vaughan Sustainability Metrics. These charts will illustrate overlaps (and gaps) in design intent, objective, and policies.

A sample table of comparisons is provided in section 4.1.

5.2 Actions

The Urban Design Brief (Volume 2), which forms the Comprehensive Development Plan for the Promenade Mall area includes several sustainability measures are considered for implementation, in accordance with Vaughan's Sustainability metrics. These are listed below:

- Green roofs and stormwater management
- Passive solar heating
- Energy monitoring and conservation
- Waste management
- Water conservation
- Erosion and sediment control
- Green construction materials
- Construction waste management
- Indoor Air Quality management during construction
- Bird-Friendly design
- Heat island mitigation

Based on the comparison analysis completed in the previous section, additional actions will be identified, adjusted for applicability to the Secondary Plan Area, and listed here. These actions are suggested for consideration for implementation in future policy documents for the Secondary Plan Area.

6.0 Mobility Networks and Active Transportation

This section will contain objectives, policies, and actions, either existing, in effect or proposed, within the Promenade Mall Secondary Plan Area, with relation to the goal of ensuring that Vaughan is a City that is easy to get around with a low environmental impact.

This section will also contain tables which compare the objectives, policies, and actions described above with the contemporary green development standards listed in Section 2.16. Comparing the objectives, policies, and actions will highlight areas for improvement, and help to determine how the Promenade Mall Secondary Area could improve. The comparison tables may also highlight where the Secondary Plan Area exceeds in standards.

6.1 Objectives and Policies

This section will contain comparison charts between One Planet Living, LEED for Cities Communities, Toronto Green Development Standard and the Vaughan Sustainability Metrics. These charts will illustrate overlaps (and gaps) in design intent, objective, and policies.

Improved transit ridership is closely linked to the population located within a 5-minute walk of a transit stop (or, a distance of approximately 400 metres).⁴⁴ Currently, the existing York Region Transit Hub located in the northwest quadrant of the Secondary Plan Area is largely isolated from the existing commercial and residential development in the south quadrants, limiting its potential to attract significant numbers of riders.

An efficient transportation network is needed to serve the Area, and the surrounding community, which permits efficient vehicular movement while encouraging travel by non-auto modes, including on foot, bicycle, and public transit.⁴⁵

The Pedestrian and Bicycle Master Plan (2007) was created with the goal, "to create new environments and enhance existing ones for both pedestrians and cyclists in the City of Vaughan. These environments should be supported by developing a visible and connected pedestrian and cycling network in Vaughan that integrates, enhances and expands the existing

on off-road pedestrian and cycling facilities.” The objectives that are associated with this goal and relevant to the Secondary Plan area are:

- Identify a seamless, clearly marked and signed network, featuring linkages to both existing and planned pathways, including on and off-road routes, multi-use pathways, footpaths and sidewalks in the City that connect to adjacent municipalities and conservation lands.
 - Provide designated on and off-road pedestrian and cycling facilities.
- Improve access to ensure “connectivity” among neighbourhoods and to improve overall liveability by finding creative ways to overcome barriers.
- Recommend planning and design criteria, and develop a comprehensive set of guidelines for implementing the pedestrian and cycling network that meet the full range of expected conditions in Vaughan.
- Integrate long-term infrastructure (road), land use and pathway system planning.

Additional objectives for consideration include:

- To develop a walkable, pedestrian-friendly environment, which is well connected to public facilities, parks and commercial areas.
- To encourage travel via non-auto modes by establishing development which is safe, attractive, and human in scale.
- To encourage a significant increase in public transit ridership to reduce traffic congestion, energy costs and pollution, and foster greater efficiency in the operation of the transportation system.
- To support the viability of public transit by planned and coordinated land use, transportation infrastructure and urban design.
- To encourage commercial and residential development at a density sufficient to reinforce the viability of local and regional transit.
- To encourage development to become increasingly transit-supportive in terms of land use, density and urban design as the Area evolves over time.
- To provide on-street parking on roads throughout the Area to support street related building entrances, and retail uses that are accessible to both pedestrians and drivers.
- To promote shared and structured parking, and permit higher lot coverage in specific areas, in order to minimize areas devoted to surface parking.
- To encourage travel on foot and bicycle, by providing safe and convenient pedestrian and bike networks on public streets connected to parks, public facilities and commercial uses.

- To design streets to enhance public safety and reduce traffic speeds.
- To reduce the need for commuter travel by encouraging a closer relationship between the workplace and the home.

A sample table of comparisons is provided in section 4.1.

6.2 Actions

The Urban Design Brief (Volume 2), which forms the Comprehensive Development Plan for the Promenade Mall area includes several sustainability measures are considered for implementation. These are listed below:

- Alternative modes of transportation
- Parking, loading, and servicing to be located below grade ⁴⁶
- Pedestrian walkways should be separated from vehicular intrusion by landscaping and/or curbs ⁴⁷
- Paving materials should be alternated wherever possible
- Paving textures and/or colours should be differentiated at crosswalks to indicate clear spaces for the interaction of pedestrians and vehicles
- Cycling facilities are strategically located and provided for the use of site visitors and residents

Active transportation and Transportation Demand Management (TDM) are anticipated to become increasingly important elements of the City of Vaughan's transportation system. The City's commitment to improved and expanded walking and cycling provisions for residents and workers will provide active transportation benefits as well as support transit by enabling easier access to the transit network. Vaughan's Official Plan includes support for City-wide and local TDM programs to reduce single occupant vehicle travel.

Based on the comparison analysis completed in the previous section, any additional required actions will be identified, adjusted for applicability to the Secondary Plan Area, and listed here. These actions are suggested for consideration for implementation in future policy documents for the Secondary Plan Area.

7.0 Education and Innovation

This section will contain objectives, policies, and actions, either existing, in effect or proposed, within the Promenade Mall Secondary Plan Area, with relation to the goals of:

- Creating a vibrant community where citizens, businesses and visitors thrive.
- Being leaders in advocacy and education on sustainability issues.
- Ensuring a supportive system for the implementation of Green Directions *[and the suggested actions of this analysis]*

This section will also contain tables which compare the objectives, policies, and actions described above with the contemporary green development standards listed in Section 2.16. Comparing the objectives, policies, and actions will highlight areas for improvement, and help to determine how the Promenade Mall Secondary Area could improve. The comparison tables may also highlight where the Secondary Plan Area exceeds in standards.

7.1 Objectives and Policies

This section will contain comparison charts between One Planet Living, LEED for Cities Communities, Toronto Green Development Standard and the Vaughan Sustainability Metrics. These charts will illustrate overlaps (and gaps) in design intent, objective, and policies.

The Urban Design Brief from the Comprehensive Development Plan (Volume 2, Urban Design Brief) for the Promenade Mall area does not directly address education and innovation. Examples of objectives which address these sustainability aspects will be provided in this section.

7.2 Actions

Based on the comparison analysis completed in the previous section, any actions will be identified, adjusted for applicability to the Secondary Plan Area, and listed here. These actions are suggested for consideration for implementation in future policy documents for the Secondary Plan Area.

8.0 Resilience

The effects of global climate change will also be felt at a local, neighbourhood level. Human-induced climate change is expected to cause more extreme hot days. Changes to wildlife habitat and natural heritage, changes to farming yields, more extreme weather events, decreased water levels and increased infrastructure issues such as electricity supply and transmission. Policy 3.1 in the VOP states, “we must also recognize the impacts of climate change on our environment and plan for both mitigation and adaptation.”⁴⁸ Policy 3.7.2. further states that the City of Vaughan, “will play an important role in the global effort to reduce carbon dioxide and other greenhouse gas emissions, and will respond to the reality of climate change through mitigation and adaptation. This will be achieved through a comprehensive approach to environmental protection. Vaughan will be a leader in ensuring clean air, pure water, healthy soil, preserving natural heritage features and supporting climate stability.”⁴⁹

Municipalities across Canada are moving towards climate change ‘resilience’, referring to the ability for a system absorb changes while maintaining regular function, and its ability to recover quickly from shocks or stresses (from the inevitable effects of climate change). A proactive planning approach is critical to building resiliency in a community.

This section will explore the objectives, policies and actions, either existing, in effect or proposed, specific to increasing resiliency and adaptation in the Secondary Plan Area, and with relation to the goals of:

- To recognize the impacts of global climate change on the natural environment and to plan for mitigation of and adaptation to such impacts. (3.1.1.6.)
- To develop targets for greenhouse gas reductions (3.7.2.1.)
- To identify adaptation measures to respond to impacts from climate change (3.7.2.1.)
- To establish Vaughan as a leader in greenhouse gas reductions by (3.7.2.2.):
 - Applying high standards of energy performance in new construction and retrofits
 - Reducing demand for single-occupant vehicle trips and supporting alternative transportation means;
 - Supporting the use of low-impact alternative energy sources
 - Establishing and achieving greenhouse gas reduction targets or meeting international, national, provincial and/or regional targets, where appropriate.

This section will also contain tables which compare the objectives, policies, and actions described above with the contemporary green development standards listed in Section 2.16. Comparing the objectives, policies, and actions will highlight areas for improvement, and help to

determine how the Promenade Mall Secondary Area could improve. The comparison tables may also highlight where the Secondary Plan Area exceeds in standards.

8.1 Objectives and Policies

This section will contain comparison charts between One Planet Living, LEED for Cities Communities, Toronto Green Development Standard and the Vaughan Sustainability Metrics. These charts will illustrate overlaps (and gaps) in design intent, objective, and policies.

The Toronto Green Development Standard's Resilience checklist and new Resilience Strategy (2019), may be referenced.

8.2 Actions

Based on the comparison analysis completed in the previous section, actions will be identified, developed, or adjusted for applicability to the Secondary Plan Area, and listed here. These actions are suggested for consideration for implementation in future policy documents for the Secondary Plan Area.

Existing actions, such as those from the Urban Design Brief (Volume 2), which forms the Comprehensive Development Plan for the Promenade Mall area, will be evaluated and considered for implementation. The Urban Design Brief (Volume 2) includes several resiliency measures that are considered for implementation, in accordance with Vaughan's Sustainability metrics. These are listed below:

- Green roofs and stormwater management
- Alternative modes of transportation
- Passive solar heating
- Energy monitoring and conservation
- Waste management
- Water conservation and high level of efficiency in water consumption; rainwater harvesting and recirculation for irrigation
- Erosion and sediment control
- Bird-Friendly design
- Heat island mitigation
- Water efficient and drought resistant landscaping; maximizing permeable surfaces

Summary Table of suggested objectives, policies, and actions

This section provides a summary table of the conclusions and suggested actions that will form the Promenade Mall Secondary Plan Area Sustainability Plan. The final Sustainability Plan will be formed based on the objectives, policies, and suggested actions in the previous parts. These recommendations will be informed by looking at the various levers (fiscal, financial, educational/information, regulatory) that transforms strategies into successful and effective policies.

Appendices

Appendix A

Appendix A – Title

Appendix B – Title

Appendix B

Appendix C – Title

Appendix C

Appendix D – Title

Appendix D

Endnotes:

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- ¹ City of Vaughan, "Promenade Mall Secondary Plan," accessed July 2019, https://www.vaughan.ca/projects/policy_planning_projects/Pages/Promenade-Mall-Secondary-Plan.aspx
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- ³ City of Vaughan, "Promenade Mall Secondary Plan,"
- ⁴ City of Vaughan, "Promenade Mall Secondary Plan,"
- ⁵ Bousfields Inc., *Planning and Urban Design Rationale Volume 1 – Urban Design Brief, 1 Promenade Circle and 180 Promenade Circle*, (June 2018), s 2.5 p 15
- ⁶ Bousfields Inc., *Planning and Urban Design Rationale Volume 1 – Urban Design Brief, 1 Promenade Circle and 180 Promenade Circle*, (June 2018), s 2.5 p 15
- ⁷ Bousfields Inc., *Planning and Urban Design Rationale Volume 1 – Urban Design Brief, 1 Promenade Circle and 180 Promenade Circle*, (June 2018), s 2.5 p 15
- ⁸ HDR Inc, *Background Transportation Discussion Paper (Work in Progress Draft)*, (September 2019) v 0
- ⁹ HDR Inc, *Background Transportation Discussion Paper (Work in Progress Draft)*, (September 2019) v 0
- ¹⁰ HDR Inc, *Background Transportation Discussion Paper (Work in Progress Draft)*, (September 2019) v 0
- ¹¹ *ibid*
- ¹² *ibid*
- ¹³ Government of Ontario, "Citizen's guide to land use planning," accessed August 2019, <https://www.ontario.ca/document/citizens-guide-land-use-planning/planning-act>
- ¹⁴ Government of Ontario, *A Place to Grow: Growth plan for the Greater Golden Horseshoe*, (May 2019), s 1.2
- ¹⁵ City of Vaughan, by-law No. 138-2005, *Official Plan Amendment 671*, (July 2005), s 2.2 p 6
- ¹⁶ City of Vaughan, by-law No. 138-2005, *Official Plan Amendment 671*, (July 2005), s 2.2 p 6
- ¹⁷ The Regional Municipality of York, *York Region Official Plan 2010*, (2010), s 1.2
- ¹⁸ The Regional Municipality of York, *York Region Official Plan 2010*, (2010), s 1.2
- ¹⁹ City of Vaughan, "City of Vaughan Official Plan 2010," accessed July 2019, http://www.vaughan.ca/projects/policy_planning_projects/official_planning_2010/Pages/default.aspx
- ²⁰ City of Vaughan, "City of Vaughan Official Plan 2010,"
- ²¹ City of Vaughan, *City of Vaughan Official Plan 2017, Volume 1*, (2017) s 1.5
- ²² *Vaughan Municipal Energy Plan: Plug into a Smart Energy Future*, (June 2016), s 1.4
- ²³ City of Vaughan, "Municipal Energy Plan," accessed July 2019, https://www.vaughan.ca/cityhall/environmental_sustainability/Pages/Municipal-Energy-Plan.aspx
- ²⁴ *Vaughan Municipal Energy Plan: Plug into a Smart Energy Future*, (June 2016), s 1.1
- ²⁵ *Vaughan Municipal Energy Plan: Plug into a Smart Energy Future*, (June 2016), s 5
- ²⁶ City of Vaughan, "Climate change," accessed October 2019, https://www.vaughan.ca/cityhall/environmental_sustainability/Pages/Climate-Change.aspx
- ²⁷ City of Vaughan, "Climate change," accessed October 2019, https://www.vaughan.ca/cityhall/environmental_sustainability/Pages/Climate-Change.aspx
- ²⁸ Bioregional, *One Planet Goals and Guidance for Communities and Destinations* (London: Bioregional, 2016), 4, <https://www.bioregional.com/resources/one-planet-living-goals-and-guidance-for-communities>
- ²⁹ Bioregional, *One Planet Goals and Guidance for Communities and Destinations*, 4
- ³⁰ Bioregional, 5
- ³¹ U.S. Green Building Council (USGBC), "LEED for Cities and Communities," accessed August 2019, <https://new.usgbc.org/leed-for-cities>
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Endnotes 2

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- ³⁵ U.S. Green Building Council, *LEED for Cities and Communities Existing, Getting started guide for beta participants*, 5
- ³⁶ WSP Canada Inc., *Summary Comparison: Version 3.0 Toronto Green Standard for Mid to High Rise Development and LEED Version 4.0 Building Design and Construction* (Toronto: WSP Canada Inc., 2019), 1, <https://www.toronto.ca/wp-content/uploads/2019/03/8e83-city-planning-Toronto-Green-Standard-v3-LEED-Supplement.pdf>
- ³⁷ WSP Canada Inc., *Summary Comparison: Version 3.0 Toronto Green Standard for Mid to High Rise Development and LEED Version 4.0 Building Design and Construction*, 1
- ³⁸ City of Toronto, "Mid to High-Rise Residential & all Non-Residential Version 3," accessed August 2019, <https://www.toronto.ca/city-government/planning-development/official-plan-guidelines/toronto-green-standard/toronto-green-standard-version-3/mid-to-high-rise-residential-all-non-residential-version-3/>
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- ⁴⁰ WSP Canada Inc., *Summary Comparison: Version 3.0 Toronto Green Standard for Mid to High Rise Development and LEED Version 4.0 Building Design and Construction*, 1
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- ⁴⁴ City of Vaughan, by-law No. 138-2005, *Official Plan Amendment 671*, (July 2005), s 3
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- ⁴⁶ Bousfields Inc., *Planning and Urban Design Rationale Volume 2 – Urban Design Brief, 1 Promenade Circle and 180 Promenade Circle*, (June 2018), s 6.7 p 35
- ⁴⁷ Bousfields Inc., *Planning and Urban Design Rationale Volume 2 – Urban Design Brief, 1 Promenade Circle and 180 Promenade Circle*, (June 2018), s 6.8 p 36
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- ⁴⁹ City of Vaughan, *City of Vaughan Official Plan 2017, Volume 1*, (2017) s 3.7.2